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"Towards securing human welfare through management of insect diversity in a changing world"
"Vers une amélioration du bien-être humain grâce à la gestion de la diversité des insectes dans un monde en mutation"
"نحو تأمين الرفاهية البشرية من خلال إدارة تنوع الحشرات في عالم متغير"

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"TOWARDS SECURING HUMAN WELFARE THROUGH MANAGEMENT OF INSECT DIVERSITY IN A CHANGING WORLD"

"VERS UNE AMÉLIORATION DU BIEN-ÊTRE HUMAIN GRÂCE À LA GESTION DE LA DIVERSITÉ DES INSECTES DANS UN MONDE EN MUTATION"

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Abstract

Sweet potato (*Ipomoea batatas* Lam.) is a staple food crop for a large proportion of the population in sub -Saharan Africa. One important factor limiting its production is infestation by the sweet potato weevil, *Cylas puncticollis* (Boheman) (Coleoptera: Brentidae). The use of host plant resistance is an essential component in the integrated pest management of sweet potato weevil. In this study, four sweet potato varieties commonly grown in Ghana (Apumoden, Ligri, Bohye and Okumkom) were evaluated for susceptibility to *C. puncticollis* under laboratory conditions (30 ± 1°C and 75 ± 5% RH) by establishing its bionomic parameters. The varietal effects were significant on developmental time, the female longevity and fecundity of C*. puncticollis*. The developmental period varied from 22.6 days on Ligri to 24.7 days on Okumkom with a percentage emergence varying form 57.92 % on Bohye to 74.86 % on Ligri. The shortest and longest female longevity were recorded on Apumoden (106.8 days) and Bohye (71.6 days), respectively. The lowest female fecundity was recorded on Bohye (125.67 eggs/ female). All life table parameters showed significant differences among tested varieties. The intrinsic rate, (rm) varied from 0.077 to 0.089, net reproductive rate, (Ro) varied from 34.73 to 90.53 and generation time (G) from 45 to 54 days. The results of this study indicate that Bohye is relatively less susceptible compared with the other varieties tested and opens a possibility of the use of host plant resistance in Integrated Pest Management program against *C. puncticollis* in Ghana.

Key words: Sweet potato variety, susceptibility, *C. puncticollis*, life table parameters.

ST-3.20. Assessment of the Effect of Cacao Agrosystems and Farmers' Practices on Mirid Abundance and Their Damages on Cacao Trees under Unshaded Conditions in the Southern Cameroon

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Abstract

Mirid populations and their damages on cacao production have been widely studied in farms found under shaded conditions worldwide. The recent establishment of unshaded cacao plantations in Cameroon provided us the opportunity to assess the mirid abundance and damage in nine farms in three locations, from savannah to forest zones, in two consecutive years. Mirid abundance was assessed by visual counts of individuals and damage by scoring dry leaves on branches and cankers on twigs and trunks of trees. All mirids observed belonged to the species *Sahlbergella singularis* (Hemiptera Miridae). Generally, mirid numbers were low (0.26 ± mirid tree^{-1} for year 1 and 0.35 ± mirid tree^{-1} for year 2) and significantly lower in the Savannah zone (0.24 mirid cacao tree^{-1}) than the transition zone (0.51 mirid cacao tree^{-1}) and the forest zone (0.60 mirid cacao tree^{-1}). The Mirid damages was varied significantly ($p < 0.05$) between plots, sites and years. However, damage due to cankers were very high (average median score: 1.20) compared to dry leaves ones (0.51). Our study showed a negative relationship between mirid abundance on cacao trees and the severity of their damages; this suggests that the observed damage are not only caused by the *in situ* mirid populations; but by a synergistic action of exogenous factors. These results contributed to a better understanding of the mirid ecology under unshaded conditions and should be taken into consideration when designing integrated pest management schemes against mirids.

Key words: Mirids abundances, damage, unshaded cacao agrosystems, *S. singularis*